

Improving Semiconductor Supply Chain Efficiency

Shortened Lead Time, Globalization Among Challenges to Semiconductor Supply Chain Efficiency

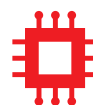
Global sales of semiconductor chips grew by 9.9 percent during 2014, and the industry is on track for continued growth in the coming years. Despite this, the industry is undergoing a fundamental transformation that is forcing manufacturers to reassess their supply chain and logistics strategies.

Purolator International has released a new white paper: “Expedited Logistics Services: Improving Semiconductor Supply Chain Efficiency,” which offers a detailed overview of the industry, along with recommendations about how an expedited logistics solution can improve efficiency. Please [click here](#) for a complimentary copy of Purolator’s new white paper.

Key Trends

Among the factors affecting the semiconductor industry:

- **Changing Market Demands.** The emergence of consumer-use products —tablets, smartphones, laptops—has fundamentally transformed the semiconductor industry. Previously manufacturing was limited to computers and industrial-use equipment. Now, semiconductors can be found in products that touch every part of daily life. According to the Semiconductor Industry Association, “everything with an on/off switch” is dependent on semiconductor technology. This explosive expansion has caused producers to look for solutions to enable them to meet the needs of their diverse customer base.
- **Need for Shortened Lead Times.** Consumer device makers face an ongoing challenge to satisfy consumer demands for faster, more powerful, and more innovative devices. Thus, devices tend to become increasingly complicated, with semiconductor manufacturers tasked with coming up with increasingly complex solutions in shorter time frames. The typical semiconductor development cycle is roughly six months, which has become untenable in today’s environment. Chipmakers need to find a way to improve efficiency without sacrificing quality.
- **Increased Globalization.** Semiconductor manufacturers are affected by the globalized market in two key ways: (1) products must be designed in a way that meets language, cultural, and regulatory issues associated with each country in which it is sold; and (2) managers face logistical obstacles associated with supply chains that can span several continents, multiple time zones, and dozens of languages. With roughly half of the world’s chip production coming from Asia, and the U.S. market maintaining a robust export market, a manufacturer needs a truly global logistics strategy.



Six-month semiconductor lead times are problematic, given device manufacturers' need for fast-paced production.

Adapting Your Supply Chain

Faced with so many competing challenges – speed, efficiency, global customer and supplier bases – semiconductor manufacturers have recognized the urgent need to reassess current practices and adapt innovative, technology-driven supply chain solutions.

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For many businesses, a first choice was to enlist the services of an expedited logistics provider. A qualified expedited provider can assume complete responsibility for all logistics needs and “free up” managers to focus on other aspects of their business.

- **Speed to Market.** An expedited solution will address the need for improved speed to market in several ways:
 - Streamlined solution in which all supply chain services are performed – or managed – by the same logistics provider
 - Personalized attention to detail through which logistics personnel will develop a customized solution to achieve specific manufacturing and distribution needs
 - High degree of flexibility to adapt to changing market conditions and unanticipated challenges
 - Integration of technology and automation to improve visibility, thereby reducing risk of disruption
 - Full suite of transportation options ranging from “next flight out” to charter services to expedited ground solutions
- **Inventory Management.** Chip manufacturers face the unpleasant distinction of producing products with very short life cycles that lose value quickly. Having the capacity to accurately forecast demand is important but so is the ability to move existing inventory quickly to where it is needed. With an expedited plan in place, an account manager has full visibility into global inventory levels and the capability to move products accordingly.
- **Globalization Issues.** An expedited logistics provider will offer hassle-free service across international boundaries and seamless clearance through local customs processes. A qualified provider will ensure that an expedited shipment arrives at a customs checkpoint with all paperwork ready to go and, where possible, already prefiled. All taxes/duties/fees will be paid in advance, and the shipment will be in compliance with all security and “other government department” mandates. Additional services might include:
 - **Use of regional airports.** Extremely busy airports can be avoided by rerouting a shipment to travel via a less-busy alternative.
 - **Maximal use of “customs-friendly” countries.** Some countries are notoriously inefficient at clearing shipments through customs, while others can move shipments quickly. A savvy logistics provider will be able to plan a logistics route that avoids likely difficult customs procedures.
 - **Local couriers.** A qualified provider will have local personnel on the ground ready to oversee the proper handling of a shipment. Local personnel will speak the local language and be fully aware of airport logistics, customs processes, and even local ground options.

Choosing the Right Logistics Provider

A diverse network of providers make up the expedited logistics industry, and it's important to weed through them to make sure you select a provider that best meets your unique needs.

A semiconductor manufacturer will need a carrier with international expertise that can handle highly secure/fragile shipments and that can offer a high degree of flexibility. It's important to take the time to research a potential logistics provider well before its services are actually needed. You don't want to find out too late that your carrier overstated its capabilities or, for whatever other reason, is not capable of transporting your urgent shipments.

To learn more about these and other supply chain innovations, visit www.purolatorinternational.com/whitepapers to download Purolator International's white paper: *Expedited Logistics Services: Improving Semiconductor Supply Chain Efficiency*.